

5902: 1/2" Structural Mullion

5951: Anchor Bracket

NT Window, Dallas, TX

GENERAL

- 1.01 Design performed in accordance with the Aluminum Design Manual, 2010, The Aluminum Association.
- 1.02 Dimensions shown in this shop drawing package are for design reference only. NT Window and Frameworks Engineering (FE) are not responsible for additional requirements or specific conditions that may exist at a site that creates a conflict with these drawings.
- 1.03 NT Window and FE does not assume any responsibility for the adequacy of the primary structure and foundation design. Contents of this drawing package show the intended application of components. Installer is to refer to the product suggested installation instructions for additional construction assembly requirements.
- 1.04 Precautions must be taken to avoid construction loads exceeding design live loads. Construction loads have not been considered in these recommendations.
- 1.05 NT Window and FE's recommendations are minimum requirements of ADM member sizes that are adequate for the given loading conditions as specified in the Design Assumptions.
- 1.06 NT Window and FE interprets all concrete to be at least 3000-psi, unless noted otherwise in this drawing package or in the accompanying calculation set.
- 1.07 NT Window and FE are not responsible for verifying and coordinating the information between these drawings and other drawings used in conjunction with these drawings.
- 1.08 The Installer is responsible to insulate aluminum members from dissimilar metals to prevent electrolysis, which includes the use of appropriate screws. Aluminum members in contact with uncured concrete and pressure treated wood shall be protected with a paint or other dielectric separation in accordance with applicable code requirements.

SUBSTRUCTURE

- 2.01 All substructures including but not limited to rough openings and framing shall be designed by others.
- 2.02 Connection details shown on drawings indicate minimum requirements based on capacity of NT Window components. The actual connections to substructure shall be designed by others.

EXISTING STRUCTURES

- 3.01 The capacity of the existing or new structure to resist all loads imposed by NT Window enclosure shall be evaluated by others.
- 3.02 Connection details shown on drawings indicate minimum requirements based on capacity of NT Window components. The actual connections to substructure shall be designed by others.

CONSTRUCTION SAFETY

- 4.01 These drawings do not contain necessary components for safety during construction.
- 4.02 The structure is only stable in its completed state.
- 4.03 Installer shall provide adequate temporary bracing, shoring, or other support of framing against wind, construction loads, and other temporary forces until no longer required for the support of the framing.

SUBMITTAL

- 5.01 Design pressure criteria listed herein is valid for short and long term loading for wind and snow. All lateral loading including seismic has not been considered. For non-site specific drawing submittals (drawing sets without a specific site address), combined loading has not been considered. Loads contained herein are assumed to be all loading, combined or separate, to be applied for the component shown.
- 5.02 linear interpolation of the tables is not permitted.
- 5.03 Installer shall carefully consider possible imposing loads on roof and walls, including but not limited to any snow drift loading, component and cladding wind loading, or other concentrated loads which may justify greater loading criteria. Determination of such loading to be performed by FE during a site specific design package.
- 5.04 Roof panel loading, ridge beam support loading, skylights, and other roof accessories have not been considered unless specifically called out in this drawing package.
- 5.05 Except as expressly provided in this specification, no additional certification is provided.

DESIGN ASSUMPTIONS

Design Based on: IRC/IBC 2018 (ASCE 7-16)

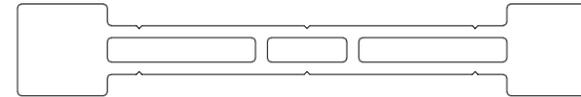
Deflection Criteria:
Structural Aluminum = L/175

PRODUCT IDENTIFICATION

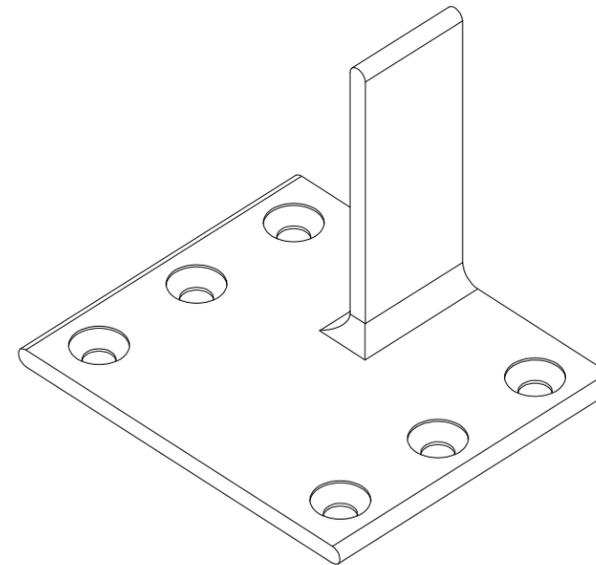
- 6.01 STRUCTURAL STEEL
All structural steel to conform to ASTM A36 or ASTM A572, Grade 50.
- 6.02 ALUMINUM
All structural aluminum extrusions to conform to the minimum requirements of 6105-T5 alloy and temper.
- 6.03 WOOD
Wood to substructure to be 0.42 minimum specific gravity.
- 6.04 CONCRETE
Concrete to be 3000-psi minimum compressive strength.
- 6.05 CMU
CMU to conform to the strength requirements of ASTM C-90 with medium weight block.
- 6.06 Other
Window and door assemblies have not been included herein and is beyond the scope of this table. To ensure a structurally sound structure these items must be properly designed per IBC or local building code amendments by a license professional engineer and installed per manufacturer instructions. Windows and doors in wind-borne debris regions must have impact rating where required by local jurisdiction.

CONNECTIONS

- 7.01 All screw connections are based on BUILDEX manufacturing data. Alternate manufacturer's fasteners of comparable specifications and load capacities are acceptable. All connections shall be complete as per the plans and specifications at the time of installation. Failure to promptly complete connections may compromise the structural integrity of the building.
- 7.02 For screws 2D minimum clearance must be maintained from all edges of the aluminum members. A 1.5D minimum on center spacing must be maintained between adjacent screws.
- 7.03 Power driven fastener systems, expansion anchor systems, masonry screw systems, and adhesive anchor systems connections are based on literature published by Hilti Fastening Systems, Inc. Alternate manufacturer's fasteners of comparable specifications and load capacities are acceptable.
- 7.04 All lag bolts shall conform to ASTM A36. All lag bolts shall have a minimum embedment of 8D, (D = diameter) in to structural wood framing with SG=0.55, minimum. Provide a pilot hole at 70% of the thread diameter of the bolt. Insert lag bolt in to pilot hole and turn to set. Do not insert using a hammer drill or direct hammer to set.
- 7.05 Framing design assumes all cladding is uniformly laterally attached to each framing member and is limited to a uniform distribution of load to the framing member. The design does not include review of the effects of local forces resulting from the attachment.
- 7.06 All window and door units are assumed to apply load to the surrounding metal framing uniformly unless differing information is provided.
- 7.07 Drift connection necessity to allow for primary structure movement is the responsibility of others.



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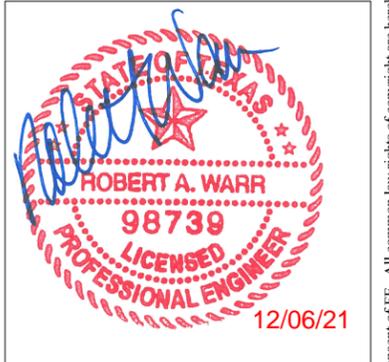


5951: Anchor Bracket

SHEET INDEX	
NT-1.0	GENERAL NOTES
NT-2.0	MULLION DETAILS



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FRAMEWORKS ENGINEERING
STRUCTURAL CONSULTANTS

Prepared For:
5902: WINDOW MULLION
NT WINDOW
Dallas, TX

Revisions		
Drawn: KGB	Engineer: RW	Reviewed: RW
Date: 12/06/2021	Project No.: 2102867-1	
Sheet Title GENERAL NOTES		
Sheet No. NT-1.0		
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LIMITING SPAN CHARTS

MAXIMUM ALLOWABLE SPAN (IN) TO WOOD SUBSTRATE											
DESIGN PRESSURE (PSF)	AVERAGE MULLION SPACING (IN)										
	36	42	48	54	60	66	72	78	84	90	96
25	92	88	84	81	78	76	74	72	70	69	67
30	87	83	79	76	74	72	70	68	66	65	64
35	83	79	75	73	70	68	66	65	63	62	61
40	79	75	72	70	67	65	64	62	61	59	58
45	76	73	70	67	65	63	61	60	58	57	56
50	74	70	67	65	63	61	59	58	56	53	50
55	72	68	65	63	61	59	57	56	52	49	46
60	70	66	64	61	59	57	56	51	48	45	42

IE.: 48" WINDOW SPACING, WITH 30 PSF DESIGN PRESSURE CAN HAVE A MULLION SPAN 75"

BOLD ITALICS IS GOVERNED BY CONNECTIONS

MAXIMUM ALLOWABLE SPAN (IN) TO CONCRETE SUBSTRATE											
DESIGN PRESSURE (PSF)	AVERAGE MULLION SPACING (IN)										
	36	42	48	54	60	66	72	78	84	90	96
25	92	88	84	81	78	75	74	72	69	64	60
30	87	83	79	76	74	72	67	62	57	53	50
35	83	79	75	73	69	62	57	53	49	46	43
40	79	75	72	67	60	55	50	46	43	40	38
45	76	73	67	59	53	48	44	41	38	36	33
50	74	69	60	53	48	44	40	37	34	32	30
55	72	62	55	48	44	40	36	34	31	29	27
60	67	57	50	44	40	36	33	31	29	27	25

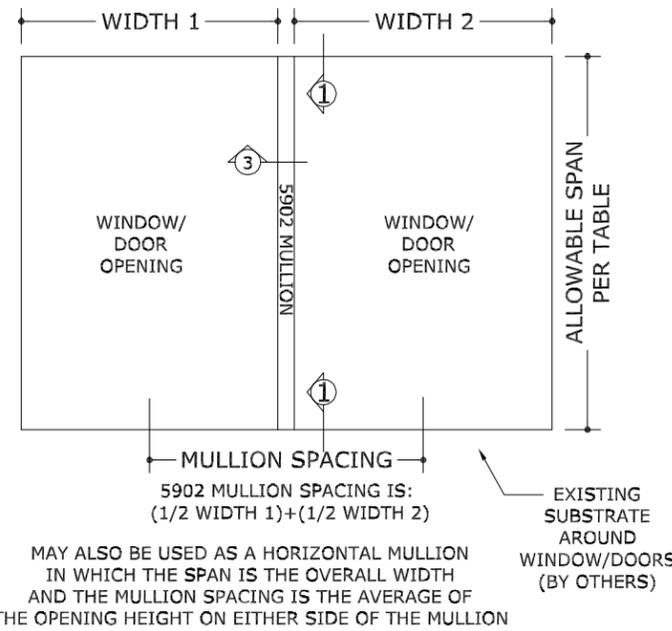
IE.: 60" WINDOW SPACING, WITH 35 PSF DESIGN PRESSURE CAN HAVE A MULLION SPAN 69"

BOLD ITALICS IS GOVERNED BY CONNECTIONS

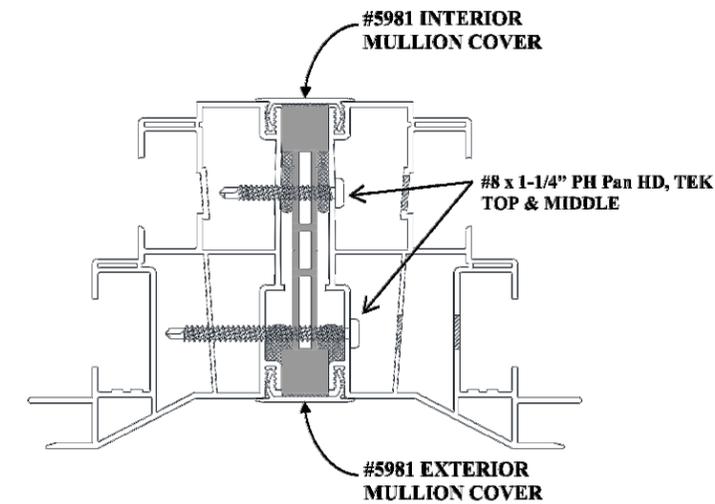
MAXIMUM ALLOWABLE SPAN (IN) TO MASONRY SUBSTRATE											
DESIGN PRESSURE (PSF)	AVERAGE MULLION SPACING (IN)										
	36	42	48	54	60	66	72	78	84	90	96
25	92	88	84	81	78	76	74	72	70	69	67
30	87	83	79	76	74	72	70	68	66	65	64
35	83	79	75	73	70	68	66	65	63	62	58
40	79	75	72	70	67	65	64	62	58	54	51
45	76	73	70	67	65	63	60	56	52	48	45
50	74	70	67	65	63	59	54	50	47	43	41
55	72	68	65	63	59	54	49	46	42	40	37
60	70	66	64	60	54	49	45	42	39	36	34

IE.: 72" WINDOW SPACING, WITH 50 PSF DESIGN PRESSURE CAN HAVE A MULLION SPAN 54"

BOLD ITALICS IS GOVERNED BY CONNECTIONS



2 TYPICAL ELEVATION
NOT TO SCALE.

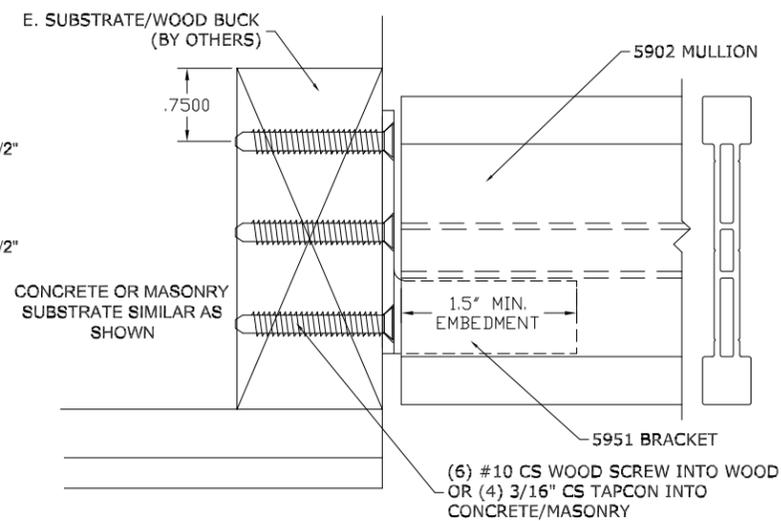


3 WINDOW MULL CONNECTION
NOT TO SCALE.

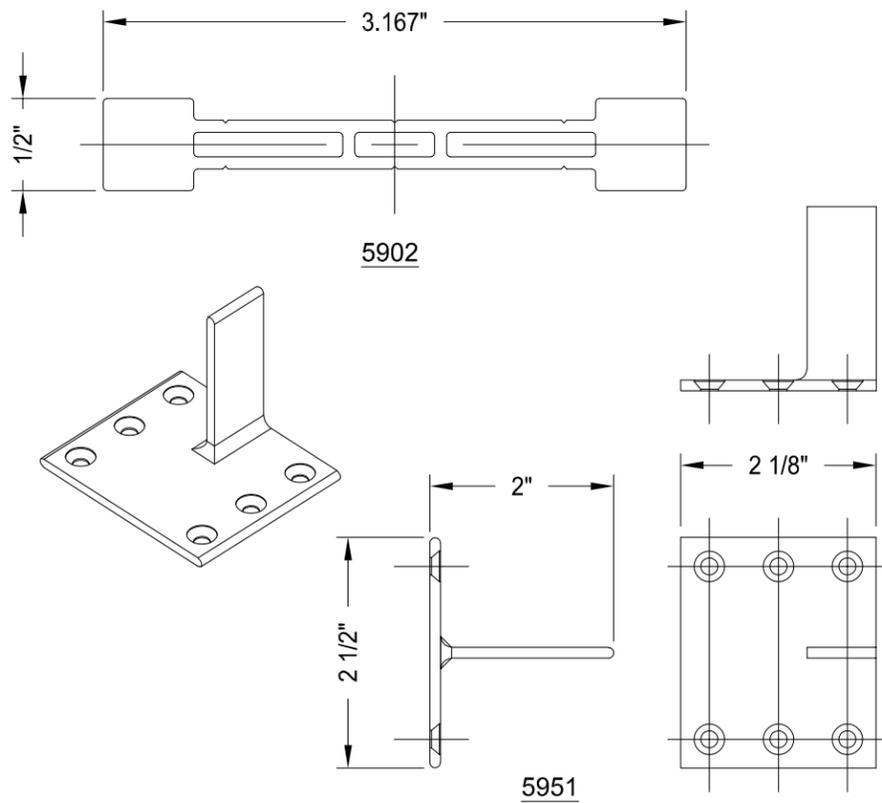
FASTENER SCHEDULE:

- INTO SUBSTRATE OF...
- WOOD:** (6) #10 WOOD SCREWS OF SUFFICIENT LENGTH TO ACHIEVE A 1-1/2" MIN. EMBEDMENT, 3/4" MIN. END AND EDGE DISTANCE
- CONCRETE:** (4) 3/16" TAPCONS OF SUFFICIENT LENGTH TO ACHIEVE A 1-1/2" MIN. EMBEDMENT, 1-1/8" MIN. EDGE DISTANCE
- CMU:** (4) 3/16" TAPCONS OF SUFFICIENT LENGTH TO ACHIEVE A 1" MIN. EMBEDMENT, 1-1/8" MIN. EDGE DISTANCE

WHEN INSTALLING (4) TAPCONS THEY ARE TO BE INSTALLED IN EACH CORNER OF THE BRACKET - CENTER HOLES TO REMAIN UNUSED



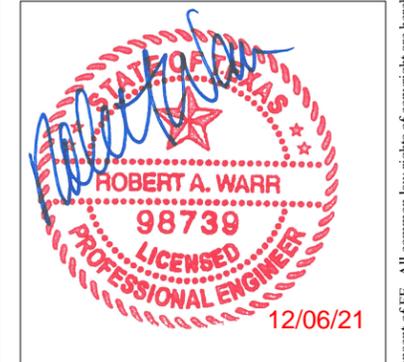
1 CONNECTION DETAIL
NOT TO SCALE.



3 TYPICAL SECTIONS
NOT TO SCALE.



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Revisions		
Drawn: KGB	Engineer: RW	Reviewed: RW
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